

The global market for RFID 2010-2020

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RFID is a fast growing business

\$bn	2005	2010	2020
Tags	1.0	2.1	9.9
Other	0.9	3.5	12
Total	1.9	5.6	21.9

It is not all about paybacks

GOVERNMENT LAWS – fit it to your cattle in Australia, Canada, Uruguay, Botswana, dogs in New Zealand, sheep and goats in Europe **or go to jail**

GOVERNMENT MONEY – **largest orders** are military and local government for non stop road tolling and air baggage in USA/Korea and city cards and national ID card in China. E-Passports in 70 countries

CRIME PREVENTION – hospitals, postal service

ERROR PREVENTION – healthcare

LIFE SAVING AND HEALTH - healthcare

Largest orders are placed by **Government**

China National ID Card \$6 billion **HF passive**

ACS for New York/ New Jersey EZ Pass \$500 million **UHF Active** (In 2006, New Jersey Turnpike Authority spent \$28 million to replace 1.1 million old E-Z pass toll tags before their batteries ran out)

Savi Technology for US Army \$500 million **433 MHz active**

Unisys consortium for US Army \$500 million **433MHz active/UHF passive**

E-Passports UK – De La Rue \$600 million

E-passport infrastructure UK and USA \$30-\$65 million **HF passive**

E-passport RFID inserts for USA \$50 million **HF passive**

Applied Digital river readers US Army/ Bonneyville Hydro \$45 m **LF passive**

RFID is \$5.6 billion in 2010 but fragmented

Over 1000 suppliers: top ten have half the business

Largest include these (double counting in the sales)

Gemplus –RFID cards & passports \$500 million+

NXP – chips \$500 million

ACS – Non stop road tolling and transport card system integrators \$500 million

Assa Abloy – secure access, livestock \$400 million

Savi – military & heavy logistics systems integration \$200 million

Smartrac - Passport inlays \$150 million

Allflex – livestock tags \$110 million

Passive and active RFID

Passive has no power supply in the tag - low cost, longest life tags

BIGGEST MARKET

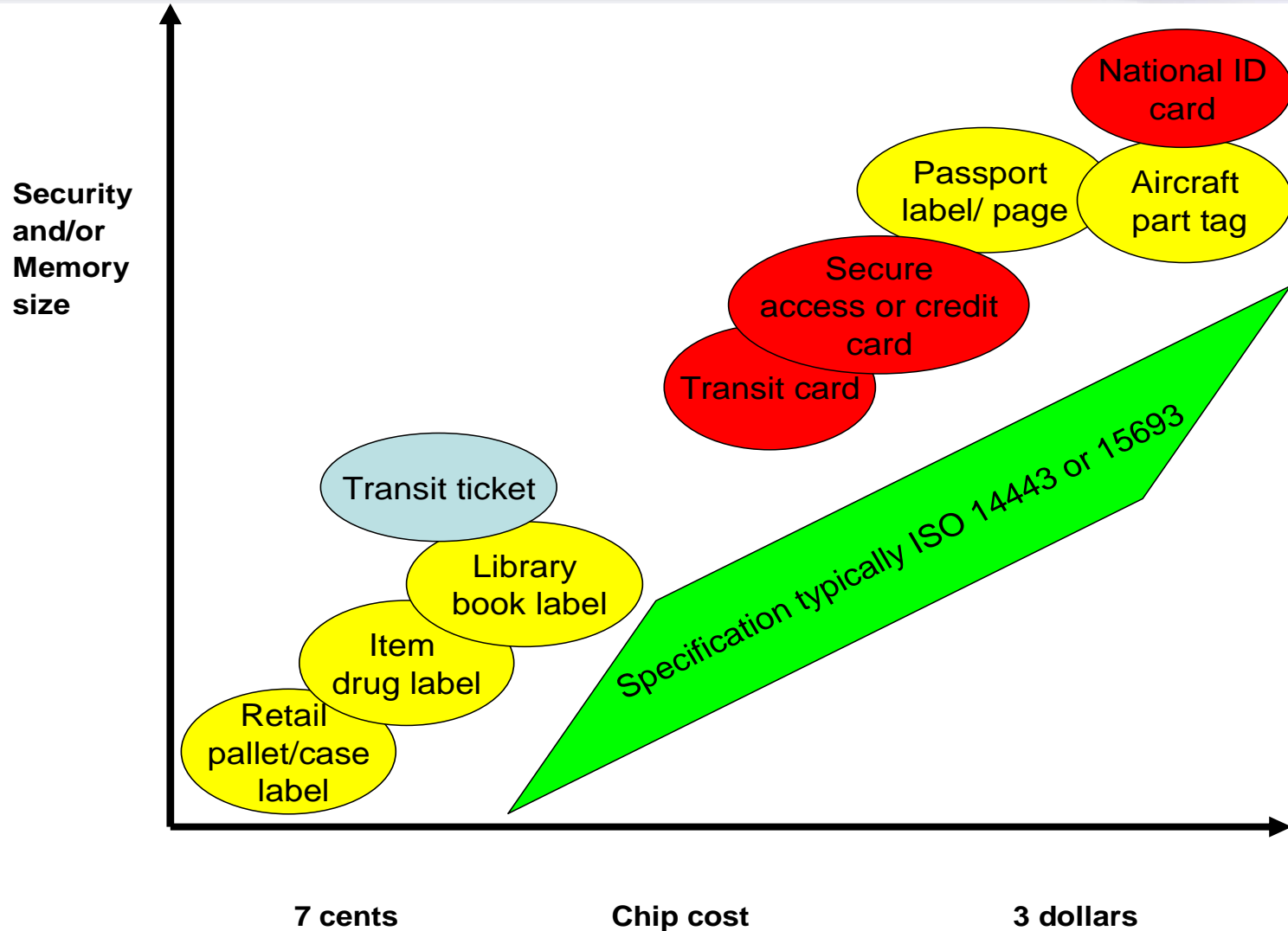
Active has a power supply in the tag, usually a battery

First generation active is a tag that is read when near an interrogator – longer range, can initiate a signal. **BIG MARKET** eg car keys, military, road toll

Second generation active is **Real Time Locating Systems RTLS** - many interrogators locating a tag from a distance eg 150 US hospitals

Third Generation Active is **Wireless Sensor Networks WSN** - every tag “node” can be a reader in a mesh network like the internet ie self organising, self healing and it can sense something.

HF RFID is over 50% of market value

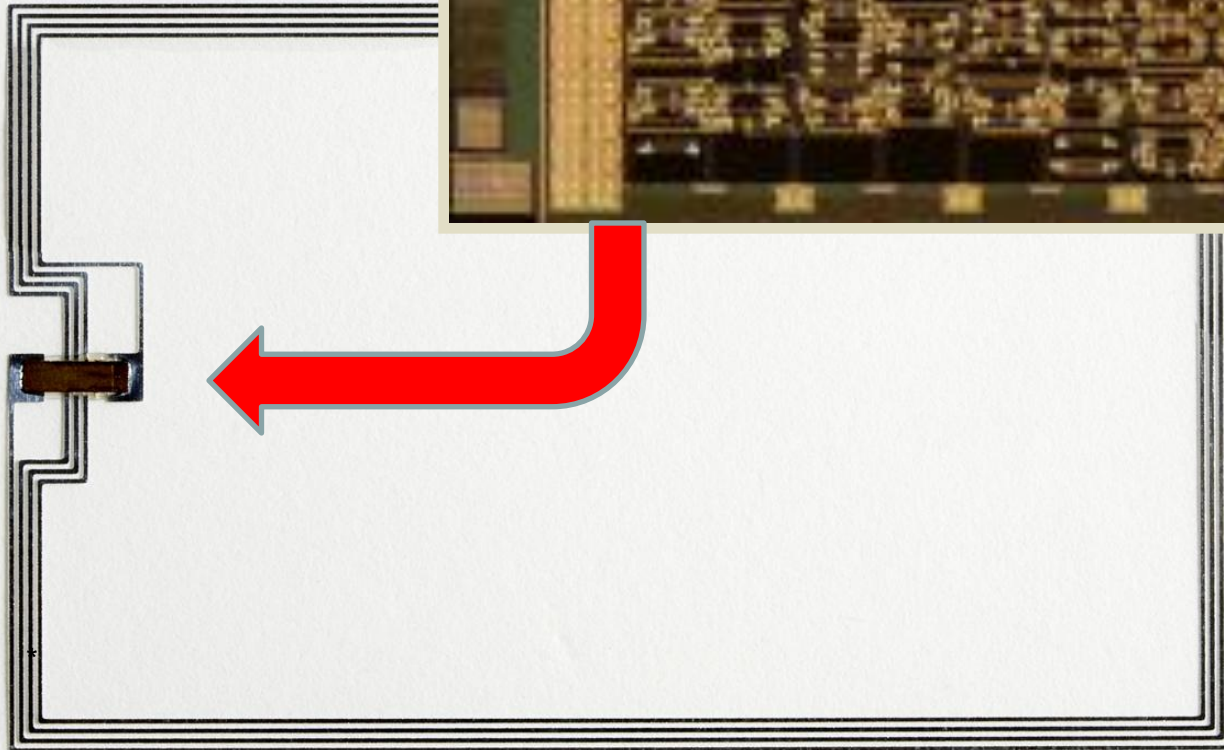
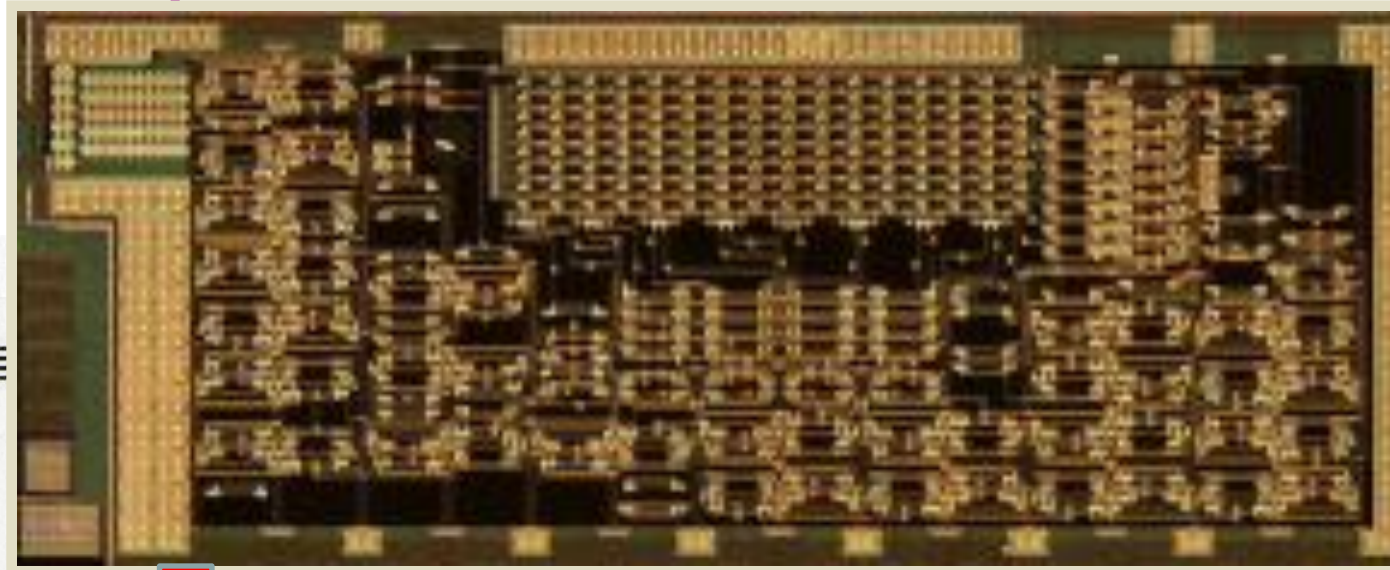


7 cents

Chip cost

3 dollars

**Dropping price to 2 cents by getting rid of the chip
Kovio ink jet printed, nanosilicon RFID in the lead
Samples are now available**



ISO14443
1000
transistors

RFID markets – *tout ça change*

The world's most popular annual analysis of RFID markets
IDTechEx "RFID Forecasts, Players & Opportunities 2010-2020"
finds

Largest expenditure by sector
2010

1. Financial, Security, Safety
2. Passenger Transport, Automotive
3. Animals and Farming

2020

1. Retail, Consumer Goods
2. Financial, Security, Safety
3. Land & Sea Logistics, Postal

World's largest reality check on RFID

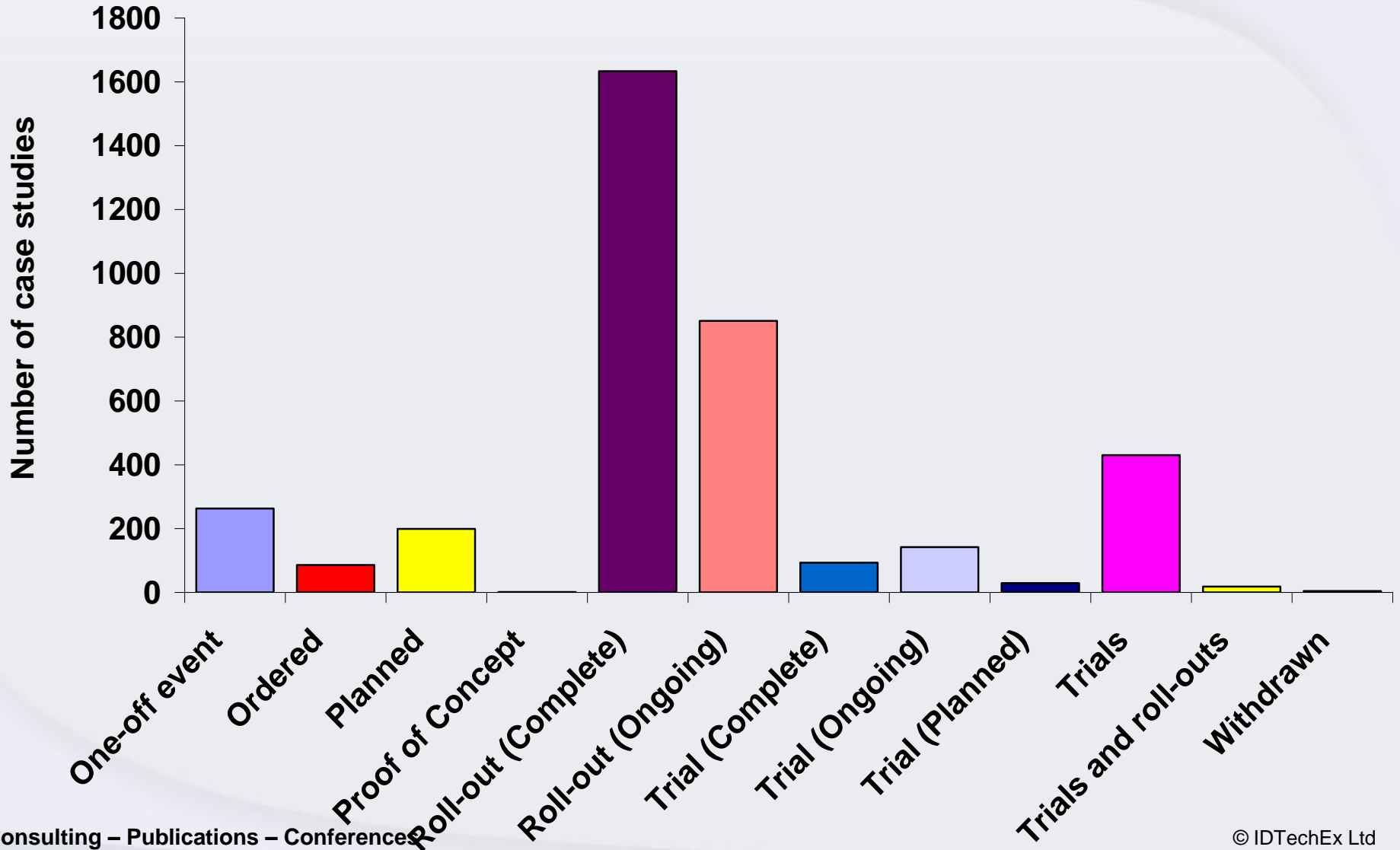
The IDTechEx Knowledgebase of over 4100 projects in 112 countries (4150 organisations, 770 slide shows/audio) shows:

Largest number of projects is

1. Financial, Security, Safety, nearly all HF
2. Retail and Consumer Goods, mainly UHF

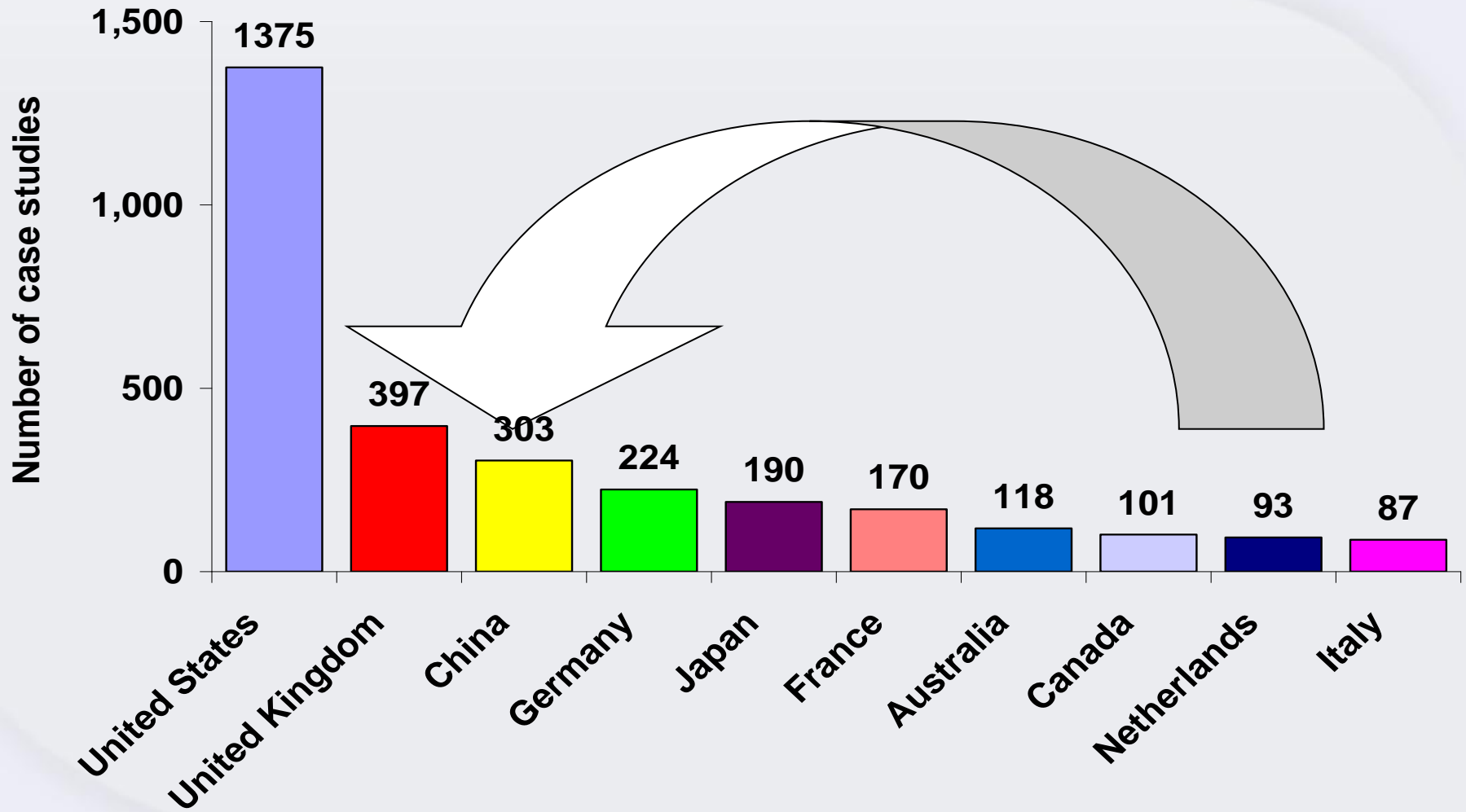
However, Retail/CPG is under 5% of the money spent on RFID so there is a long way to go

Number of case studies by project status is a glimpse of the future from the IDTechEx RFID Knowledgebase



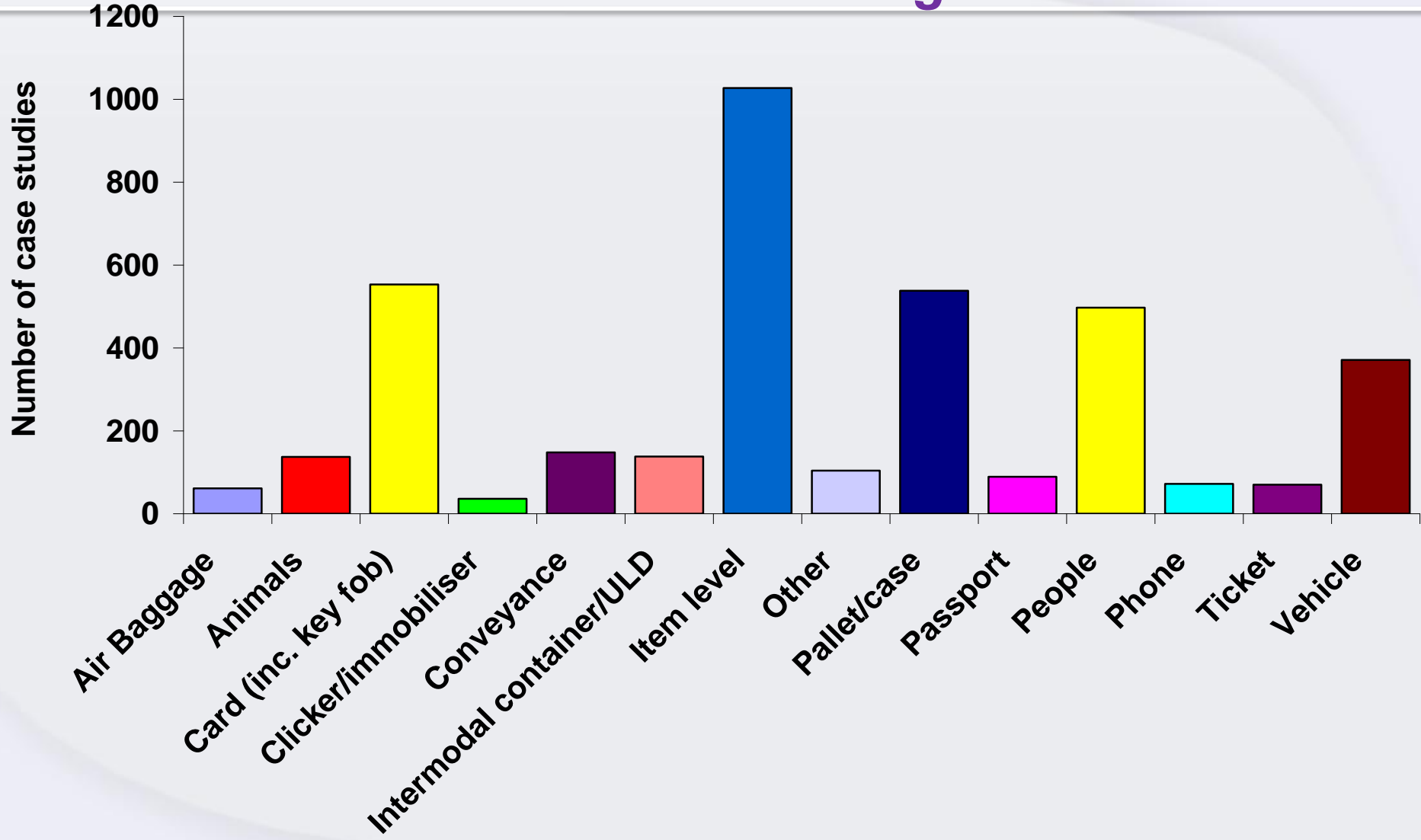
Here comes China

From the IDTechEx RFID Knowledgebase

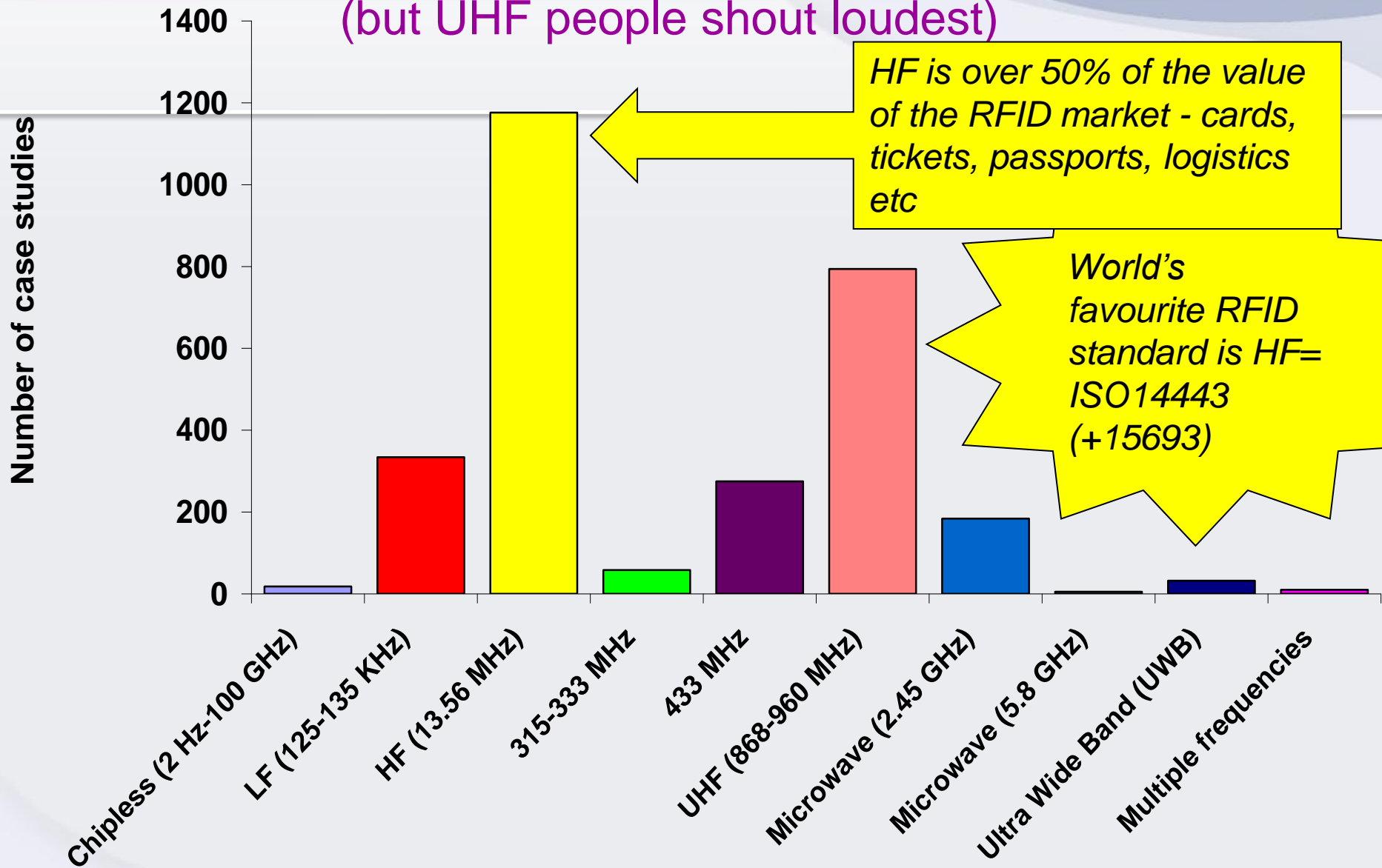


Case studies by tag location

From the IDTechEx RFID Knowledgebase



(but UHF people shout loudest)

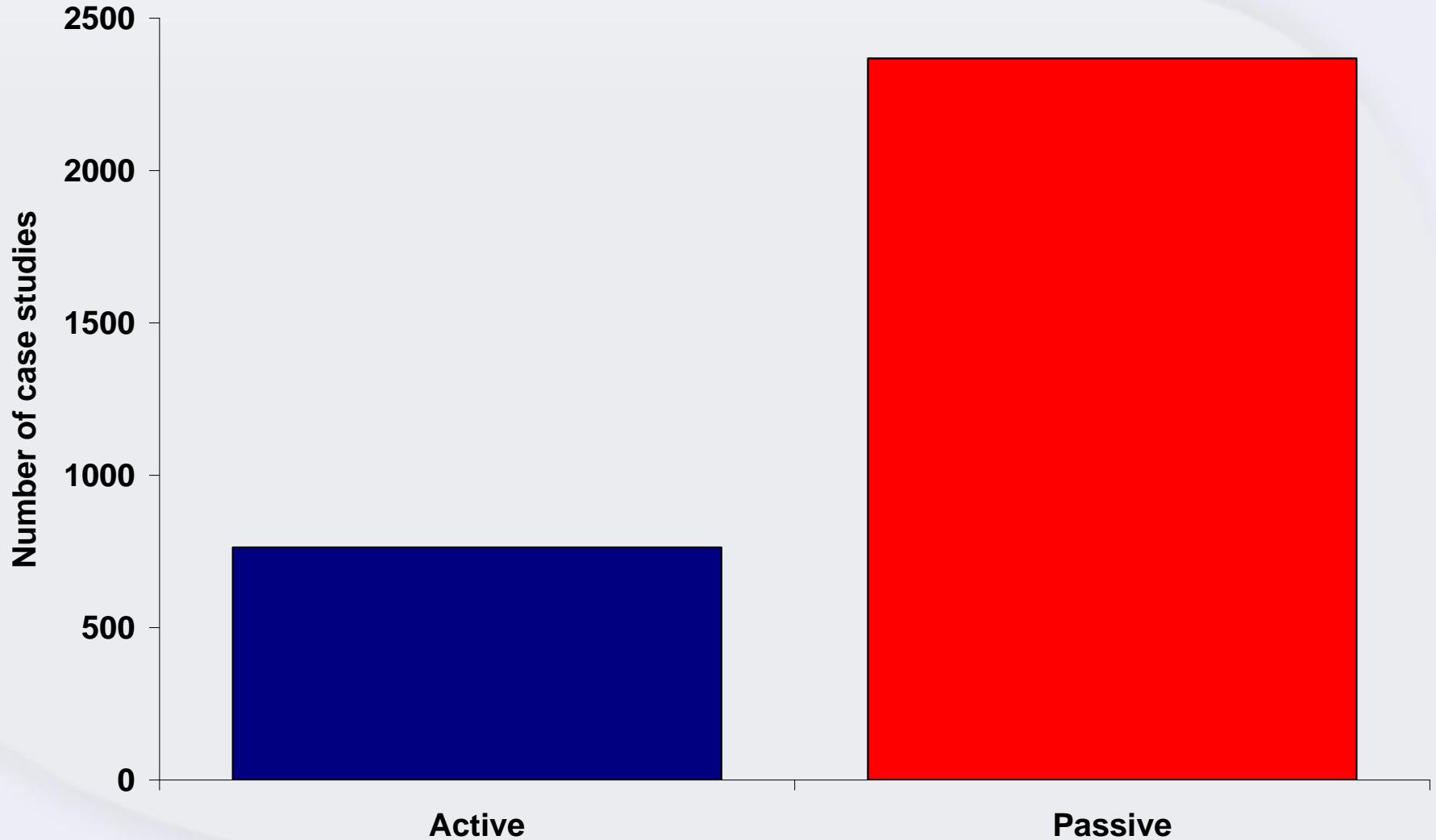


HF is over 50% of the value of the RFID market - cards, tickets, passports, logistics etc

World's favourite RFID standard is HF= ISO14443 (+15693)

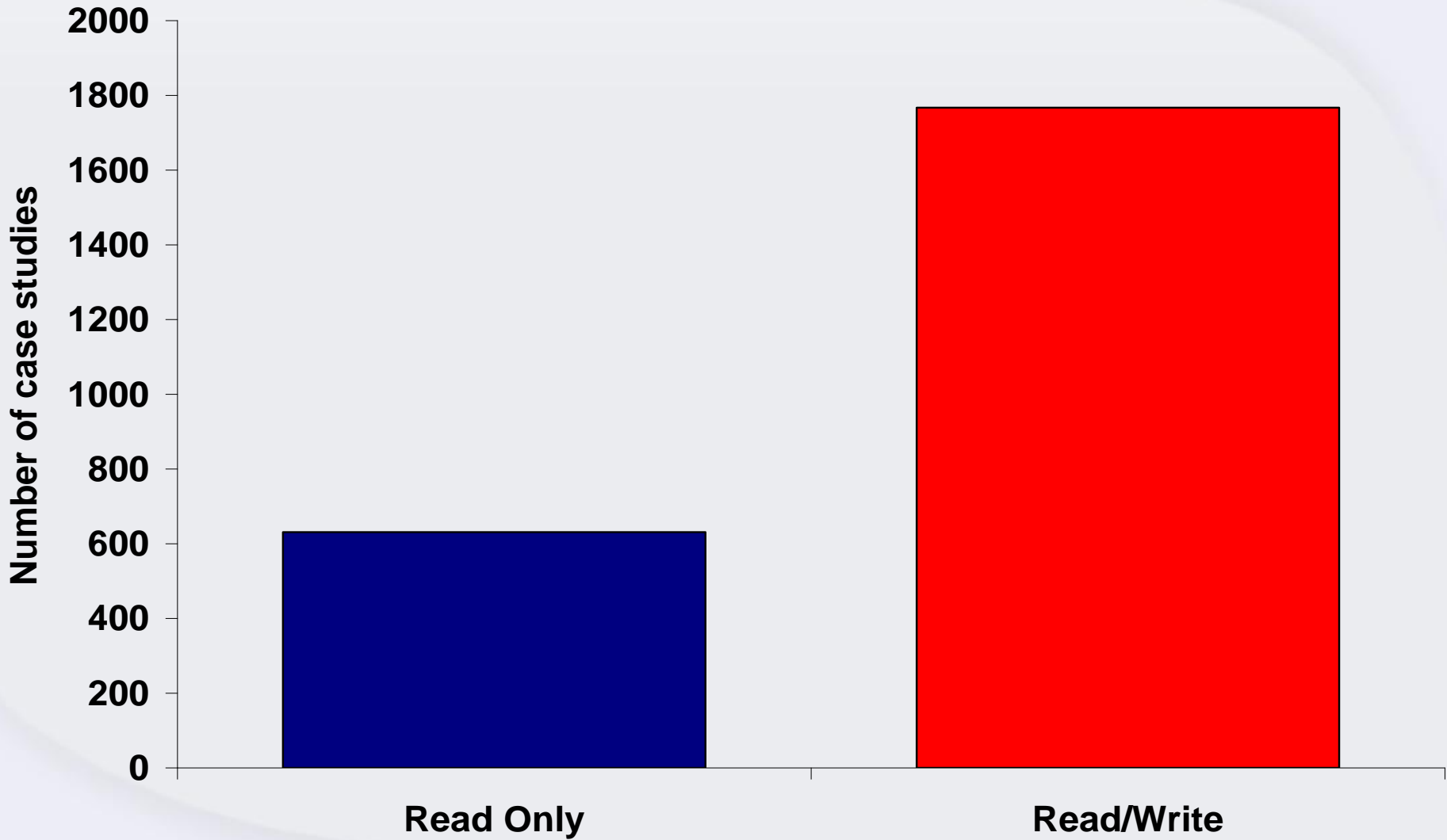
Case studies by active/passive

From the IDTechEx RFID Knowledgebase



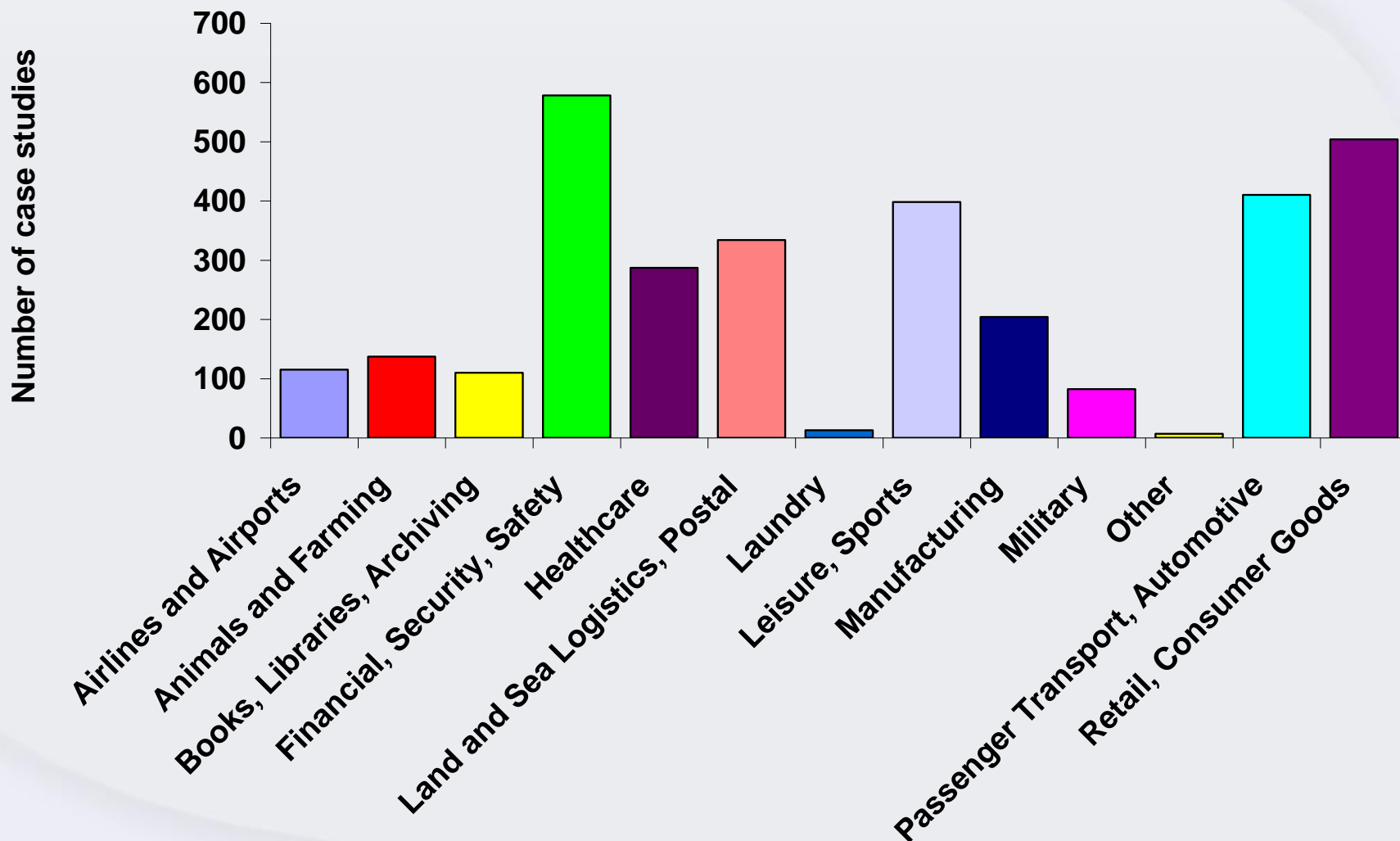
Case studies by read/write

From the IDTechEx RFID Knowledgebase



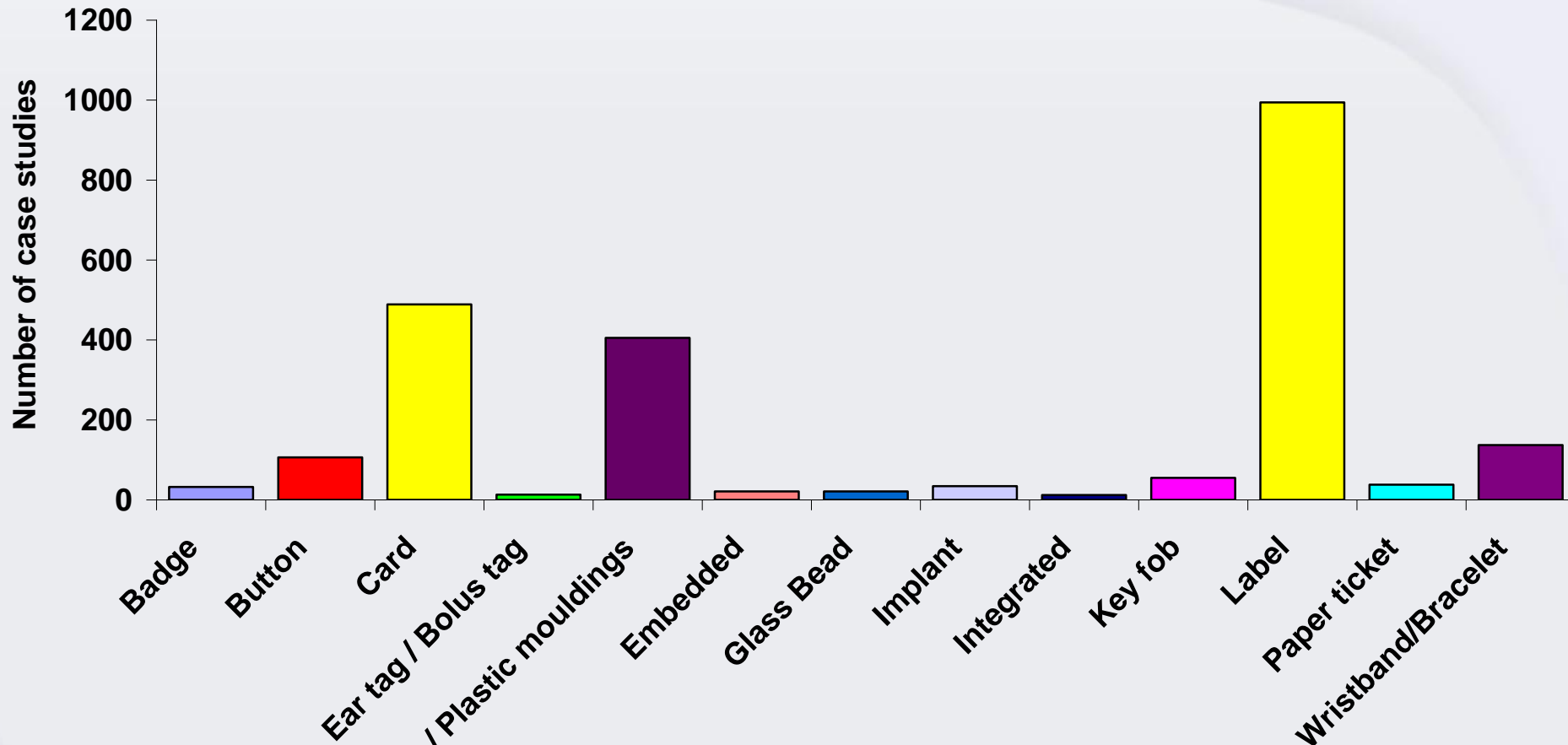
Case studies by application

From the IDTechEx RFID Knowledgebase



Case studies by tag shape

From the IDTechEx RFID Knowledgebase



Consulting – Publications – Conferences

Tag numbers will rocket if printed RFID with no chip is available and adopted but unnecessarily complicated standards must be abandoned

Number billion	2005	2010	2020
Tags	0.7	2.4	125 – mainly 2 cent chipless tags

Passive tags remain dominant in numbers

Number billion	2005	2010	2020
Active	0.05	0.06	0.8
Passive	0.66	2.3	124
Total	0.71	2.4	125

*Passive tag systems migrate to HF and UHF
Active tag systems migrate to 2.45GHz and UWB and
are more profitable*

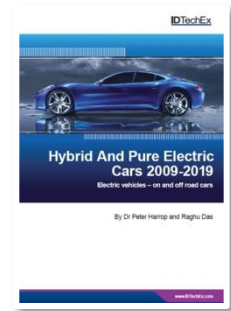
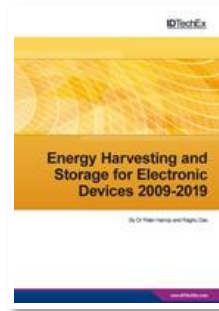
For more read:



RFID Forecasts, Players and Opportunities 2010-2020

"We found the report to be extremely helpful and well done"

Daniel Luch, CEO, Ertek



www.idtechex.com

Cambridge UK 28-29 September

RFIDEurope
Smart Labels to Active RFID

2010

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Gerry Weber

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Sony

NP Collection

Centre Pompidou

NYK Logistics

Cubic

NXP

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